Written Testimony of

James J. Angel
Assistant Professor of Finance
Georgetown University

Regarding

H.R. 1053, The Common Cents Stock Pricing Act of 1997

Before the
Subcommittee on Finance and Hazardous Materials of the Commerce Committee

The Honorable Michael G. Oxley, Chairman

United States House of Representatives

April 16, 1997

Washington, DC

Testimony of James J. Angel

Subcommittee on Finance and Hazardous Materials

Regarding H.R. 1053, The Common Cents Stock Pricing Act of 1997

Good Afternoon. My name is James Angel and I am a finance professor at Georgetown University. I want to thank you for the honor of inviting me to testify before this committee. I study the nuts and bolts details of securities markets — the microstructure, as we call it in the trade. I have studied the tick, or minimum price variation, rules in over 22 countries around the world.[1] Virtually every organized stock market has specific rules or customs that govern its tick size. In the interest of time I will not repeat all of the arguments made in previous testimony and focus on a few key benefits H.R. 1053.[2]

Although I generally detest government interference with free markets, I support this bill for the following reasons:

First, simplicity is a valuable virtue. Adopting a system in which stock prices are quoted

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[1] For more information about this research, see my paper "Tick Size, Share Prices, and Stock Splits," which is forthcoming in the June issue of the *Journal of Finance* and can be downloaded from the Journal's web site at http://www.cob.ohio-state.edu/dept/fin/journal/jof.htm

[2] For those not familiar with H.R. 1053, the "Common Cents Stock Pricing Act of 1997," this bill directs the SEC to enact a rule within one year of passage that would "require quotations in dollars and cents for transactions in equity securities, as necessary or appropriate for the public interest, for the protection of investors, or otherwise in furtherance of the purposes of this title." The actual implementation schedule and other details for this switch to decimal pricing would be left up to the SEC. Currently, the major U.S. equity exchanges quote prices in fractions such as 1/8, 1/4 etc. Under NYSE Rule 62, the minimum price variation, or tick, for stocks priced above a dollar is 1/8 of a dollar. The AMEX trades in 1/16ths, commonly called "steenths." Readers interested in this issue are also referred to the testimony of the other academics who have testified before this panel, including Jeffrey Bacidore, Lawrence Harris, Junius Peake, David Whitcomb, and Daniel Weaver.

in the common currency units of dollars and cents would reduce the costs that the users of financial information bear in converting fractional numbers into the more familiar decimal equivalents. I have personally spent many frustrating hours dealing with such fractions in computerized databases, as well as tracking my portfolio from newspaper prices. I can attest that the current system of fractional quotations imposes costly externalities on the users of financial information.

I view this bill as an equivalent to the labeling requirements on food. It would lead to the quotation of stock prices in terms that are easier for humans like me to understand. By taking some of the complexity out of stock trading and making it a more simple and transparent process, the financial markets will be more "user friendly" to retail investors. A more "user friendly" market will encourage more individuals to own stocks, and thus boost the supply of equity capital in this country.

Second, HR 1053 is an example of the appropriate way for the government to regulate financial markets when it must. It does NOT micromanage by mandating what the tick size will be. It leaves the implementation to the SEC while allowing competitive forces to decide the what the tick will be.

There has been a revolution in the way that many economists view stock markets. The old view was that a stock market was a natural monopoly whose every breath had to be regulated like an old fashioned electric utility.   The modern view is that stock exchanges are firms that should be free to compete like any other firm.[3]

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[3] See Oliver Hart and John Moore, "The Governance of Exchanges: Members' Cooperatives versus Outside Ownership," London School of Economics Discussion Paper 229. for an excellent example of the modern view.

One of the good features of U.S. regulatory policy with respect to financial markets is that it has fostered competition between markets. As is said in horse racing, “Competition improves the breed.” If a firm does not like the way its stock is traded on one market — because the spread is too high or the tick is perhaps too low — it is free to move its listing to another market.[4] There is intense competition between our markets for listings as well as order flow, resulting in transaction costs that are among the lowest in the world.[5] This bill, if properly implemented, will continue to foster competition among markets.

Third, as any finance professor would point out, no discussion of expected gains is complete without a discussion of risk. I believe that the risks involved in passing this bill are very small. Some fear that the bill will result in a tick that is too small and will hurt liquidity. (Now, there are a lot of technical reasons why a tick size could be too small. If you want to know the details, just ask me.[6]) For example, I think that a penny would be too small, and that a nickel, as

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[4] However, some believe that NYSE Rule 500 make it too difficult for a firm to voluntarily delist from the NYSE because the rule requires a supermajority vote of the shareholders in order to delist. Nevertheless, firms are presumably fully aware of this when they decide to list on the NYSE.

[5] See Birinyi Associates, Inc. *Global Equity Markets* (Birinyi Associates, Inc., Greenwich CT) for information on bid-ask spreads around the world. Birinyi looked at the major stocks in fifteen countries around the world, and found that only two countries had lower average bid-ask spreads for major stocks than the United States .32%: Both Australia and Switzerland had average bid-ask spreads of .31%

[6] The optimal tick size is not zero. There are good reasons why the firms whose stock is traded, as well as the investors who trade their shares, would prefer markets in which the tick size is not zero. An economically significant tick simplifies the trading environment, which can result in fewer costly trading errors. For example, if the tick were a nickel, you would have four possible prices between $10 and $10.25. If the tick were a penny, you would have 24. It is a lot easier for a busy traders to keep track of four numbers than 24.

A significant tick prevents traders from wasting time over economically insignificant amounts, such as a dickering between $10.25 and $10.2500000000001. The line has to be drawn used in Canada, would be just right.[7] Suppose for the sake of argument, we somehow end up with the "wrong" tick size.

Fortunately, the effective tick size — the tick as a percentage of the stock price — is not set by the government or even by the exchanges. In the long run, the effective tick is set by he companies whose stock is traded by their decisions of how many shares to issue and when to split their stock.[8] If a company thinks that its stock would be more liquid if the effective tick were larger, it could split its stock. This would make the tick size a larger percentage of the new, smaller price. If the company thought that the tick was too big, it could delay splitting its stock

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somewhere.

An economically significant tick size protects the time priority of traders who place limit orders to purchase (or sell) shares at a fixed price. These traders provide liquidity to the markets by advertising their willingness to trade at a given price. If there is something fair and proper about filling limit orders at the same price in the order that they arrive, then this time priority needs to be enforced by an economically significant tick size.

A more controversial aspect of the tick is that it puts a floor on the quoted bid-ask spread. Some firms may actually prefer a higher bid-ask spread for their stock if they believe that it will lead to more liquidity in the stock because more people are willing to trade the stock. It may be worth it for the shareholders in the firm to pay a few pennies extra in transaction costs if the stock is worth several dollars more as a result. See my forthcoming paper in the *Journal of Finance*, "Tick Size, Share Prices, and Stock Splits," as well as my working paper with Reena Aggarwal, "Optimal Listing Strategy: Why Intel and Microsoft Do Not List on the NYSE."

[7] Other countries that use .01 as their minimum price variation typically have average nominal share prices in the under 10.00 range as opposed to the over $30 typical in the U.S.   The penny stock rules in the U.S. give firms incentives to keep their stocks from falling below $5 per share. Thus, it would be difficult for stocks to increase the effective ticks on their stock by splitting their stocks because of the penny stock rules.

[8] Of course, this long run could be several decades. The NYSE adopted the current system of trading in eighths of a dollar in 1915, and it took approximately twenty years for the nominal stock price range to stabilize in the range it is today. Previously, the NYSE had traded in percentages of par value instead of in dollar terms.

until it reached a higher share price.[9] Thus, even if the SEC made the tick too small, eventually the markets would adjust.

On balance, I think that it makes good sense to use dollars and cents in quoting stock prices and I urge you to support H.R. 1053.[10]

Thank you.

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[9] Clearly, there are other factors that influence stock splits as well, such as the desire of firms to signal good news, and the desire to make round lots of stock more affordable to individual investors.

[10] I do have one technical qualm about the wording of the bill. Would the bill require foreign stocks traded in the U.S. to be quoted in U.S. currency? If so, this could inhibit the ability of our markets to compete for order flow with foreign markets. I would recommend a clarifying amendment to make sure that U.S. markets could quote foreign securities in their native currencies.

CURRICULUM VITAE

James J. Angel
Assistant Professor of Finance
Georgetown School of Business

Home:
936 N. Livingston St.
Arlington, VA 22205
(703) 536-8416

Office:
Room G-4 Old North
Georgetown School of Business
Washington, D.C. 20057
(202) 687-3765 (voice)
(202) 687-4031 (fax)
angelj@gunet.georgetown.edu

Education:

University of California at Berkeley
Walter A. Haas School of Business
Ph.D. in Finance, 1991

Harvard Business School, M.B.A. 1985

California Institute of Technology, B.S. 1981
Double major: Engineering and Applied Science, Economics

Sewickley Academy, Sewickley, PA

Refereed Publications:

"Tick Size, Share Prices, and Stock Splits" *Journal of Finance* 52, June 1997.

“The Value of the Stock Voting Right: Evidence from the Swiss Equity Market” (joint work with Roger Kunz) *Financial Management*, 25 (3) 7-20, Autumn 1996. (Lead article)

"Comparison of Two Low-Cost S&P 500 Index Funds", *Derivatives Quarterly* Volume 2 (3) 32-38 (joint work with Don M. Chance, Jack Clark Francis, and Gary L. Gastineau) Spring 1996.

"The Broker Game", *Financial Practice and Education* Volume 4 (1) 61-66 Spring/Summer 1994.

"Implications of Chaos Theory for Portfolio Management", *Journal of Investing* Volume 3 (2) 30-35, Summer 1994.

"The Municipal Bond Insurance Riddle", *Financier* Volume 1 (1) 48-63 February 1994.

Other Publications:

"Looking Back At Our Debt Defaults," *Chicago Tribune*, February 1, 1996

"An Investor's Guide to Placing Stock Orders", *American Association of Individual Investors Journal*, April 1993

"Center for Nutritional Research", Harvard Business School Case 0-185-145 with Joyce Lallman, 1985

Dissertation:

Order Placement Strategy of Informed Investors: Limit Orders and Market Impact

Winner of the 1991 FMA/AAII Completed Dissertation Grant Award

Working papers:

The Rise and Fall of the AMEX Emerging Companies Marketplace (joint work with Reena Aggarwal)

Market-Adjusted Options for Executive Compensation (joint work with Douglas McCabe)

Optimal Listing Policy: Why Intel and Microsoft Do Not List on the NYSE (joint work with Reena Aggarwal)

How Best To Supply Liquidity to a Small Capitalization Securities Market

Liquidity and Market Value: Evidence from Changes in Equity Structure in Switzerland (joint work with Roger Kunz)

Who Gets Price Improvement on the NYSE?

Short Selling on the NYSE

Limit Versus Market Orders

Nonstandard Settlement Transactions

Other Research Interests:

Implications of the New Theory of Stock Splits
Individual Trading Around Earnings Announcements
When-issued Shares and the Variance of Returns Around Stock Splits (joint work with Raymond Brooks)

Work Experience:

1986-1991	BARRA, Berkeley CA	Consultant
1981-1983	Pacific Gas and Electric, San Francisco CA	Rate Engineer

Academic Appointments:

Georgetown University School of Business
Assistant Professor of Finance 1991-

University of California at Berkeley:

Graduate Student Instructor
Research Assistant to Professors Pete Kyle and David Modest

Harvard Business School:

Research Assistant to Professor Richard Meyer, 1984
Research Assistant to Professor Regina Herzlinger, 1985

California Institute of Technology:

Summer Undergraduate Research Fellow, 1979 and 1980
Research Assistant to Professor Charles Plott 1979-1981

Honors and Awards:

Georgetown University:
School of Business Summer Research Grants 1992, 1993, 1994, 1995, 1996

U.C. Berkeley:

FMA/AAII Completed Dissertation Grant Award
Outstanding Graduate Student Instructor, 1988
Dean Witter Fellowship
University Fellowship

Harvard Business School:

Second Year Honors

Caltech:

Graduation With Honors
National Merit Scholar
Don Shepherd Award
Varsity Football Letterman
Sophomore Class President

University Service:

Coordinator of Summer Research in Progress Seminar Series, 1992-
Chair, Faculty Computer Advisory Committee
Benefits Advisory Committee, 1995-
Faculty Advisor, Georgetown University Student Investment Fund, 1995-
Faculty Advisor, Georgetown Investment Alliance, 1993-1995
Faculty Advisor, Financial Management Association 1993-1996
Undergraduate Finance Field Advisor 1993-
Technology and Enhancements to Classroom Committee 1993-1994
Freshman Admissions Committee 1993-1994
Faculty Computer Advisory Committee, 1992-1993, 1994-
Student member of the U.C. Berkeley Economics Department External Review Committee, 1988
Student member of U.C. Berkeley faculty Graduate Council, 1988-1990
Graduate Assembly Representative, 1987-1990

Professional Conferences:

Program Committee:

Financial Management Association, 1994, 1995, 1996

Session Chair:

Financial Management Association, 1994-1995

Presenter:

Western Finance Association, 1992

Financial Management Association, 1992-1995

Discussant:

Western Finance Association, 1991
Financial Management Association, 1992-1995
American Finance Association, 1994
American Economics Association, 1995

Attended:

American Finance Association, 1986-1996
Western Finance Association, 1986-1996
Financial Management Association, 1990-1995
Berkeley Program in Finance, 1986-1991

Professional Memberships:

American Economic Association
American Finance Association
Eastern Finance Association
Financial Management Association
International Association of Financial Engineers
Society for Financial Studies
Southern Finance Association
Western Finance Association

Referee Activities:

Economic Inquiry
Financial Management
Financial Practice and Education
Journal of Economics and Business
Journal of Finance
Journal of Financial Services Research
Review of Financial Studies

Disclosure:

Neither I nor any entity that I represent have received any federal grant, subgrant, contract, or subcontract during the current fiscal year or either of the two preceding fiscal years, excepting federal grants to scholars or entities at Georgetown University other than myself.

Georgetown University
School of Business
Washington D.C. 20057-1008

James J. Angel
Assistant Professor of Finance
(202) 687-3765 (voice)
(202) 687-4031 (fax)

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Legislative Clerk for the Committee on Commerce
2125 Rayburn House Office Building
Washington, DC 20515
(202) 225-2927

Re: April 16, 1997 Testimony before the Subcommittee on Finance and Hazardous Materials

Enclosed are seventy five copies of my written testimony, along with my vita and disclosure statement.

Sincerely,

James J. Angel